

Constitution Hall
Washington, D.C.
"Spirit and Opportunity"

Good afternoon class of 2003! Professor Eftekhari (Professor Abbas Eftekhari, Computer Science and Information Technology), thank you so much for that most generous introduction. It was actually longer than my speech (laughter). And thank you Dr. Jarvis (President Charlene Jarvis) for this tremendous honor that's been unexpectedly bestowed on me. I will cherish both the opportunity to be here today and the honorary doctorate, which will be very close to my heart forever.

Professor, I am delighted that with the support of NASA you are able to engage your students in so many productive computer science courses. As a result of your leadership I trust that many of your students are well on their way to exciting careers in science and technology fields, a subject I will address in a few minutes.

I certainly want to extend my greetings to the chairman of the Board, Elizabeth Lisboa-Farrow, the faculty and administration, and most especially to President Charlene Drew Jarvis.

Now, I'm going to tell you something about President Jarvis that only a cousin of hers can. And we are first cousins, so I am allowed to do this. Charlene, Dr. Jarvis to you, was the smartest. But I was always the prettiest (laughter). As we cousins grew up it was obvious that she alone would lead and make a significant contribution and influence the world around her. I'm working now in D.C. because of her ability to persuade. It wasn't until recently that I learned that she had a major role in my success and acceptance into the United States space program. Unfortunately she only encouraged a one-way ticket for me. When it was announced that we could send someone to space she thought it meant one-way. Luckily the program allowed a return trip on a one-way fare. So thank you very much, cousin, for participating in that.

It should come as no surprise to any of you who have witnessed her energy and dedication to making Southeastern University one of the flagship universities in this great city, how much President Jarvis means to the people of Washington.

If you ever have an opportunity to travel with her, you will realize that everyone in the city will recognize her, and will come up to her, and greet her. And President Jarvis, even though she may not recognize them, will hug them and embrace them as if they are her very best personal friend.

You could also tell from the reaction of folks in that restaurant how well respected she is, and how much they value her service to our larger community. That service, of course, continues at Southeastern University and you are very fortunate to have the privilege of working with this wonderful lady.

From a personal standpoint let me tell you it is truly an amazing moment for me to be here in Constitution Hall, congratulating the graduates on their achievements.

The last time I attended a commencement here was my graduation from High School. It was many decades ago. I was several decades younger, and to be honest weighed much less, and had a lot more hair. That's a privilege of age, being able to capture more sunshine in your head (laughter).

So much of what lay ahead in my life on that day in 1958 when I graduated -- that resulted in

going to the Air Force Academy, learning to be a pilot, and looking at our beautiful planet from the vantage point of space on three Shuttle missions -- that would have been incomprehensible to me as I sat as you do today.

Being here again looking at so many happy faces on the occasion of one of the great achievements in your lives, and just speculating on what may lie ahead is a wonderful yet very, very surreal moment for me.

To the graduates and their families, I have a simple message. You have every right to be proud of this moment and your accomplishments. You should be tremendously proud of what you have accomplished.

When my fellow astronaut Neil Armstrong took humanity's first steps on the moon some 34 years ago, he said, "That's one small step for a man, one giant leap for mankind." In a few moments, all of you are about to take a few steps to receive your diplomas. Like Neil's, each of those steps represents the giant leap that you have achieved by making the commitment to pursue your college degree, and by following through on that commitment through a lot of hard work and perseverance.

We know for sure this degree is not being handed to any of you on a silver platter. Many of you have traveled a long way to get your education. Others have had to overcome significant personal obstacles while pursuing your degree.

By balancing work and family commitments with your studies like an expert tightrope walker, all of you have gone the extra mile to advance your education and better yourself. You have earned this singular moment, this giant leap, and I'd like each and every one of the families and friends and mentors and teachers, if you would please stand up and applaud this group (applause). You all are truly brilliant graduates.

In thinking about the roads you have traveled and the path you have ahead, I would like to draw on lessons we have learned from aviation and spaceflight history, both our moments of triumph, and sadly, our moments of tragedy.

Earlier this year, the NASA family, our Nation and the world lost seven remarkable individuals, the heroic crew of the Space Shuttle Columbia, a loss that I still feel deeply.

The loss of the Columbia crew served as a sobering reminder in this Centennial of Flight year for all amazing progress the age of aviation and space flight has made possible, our gains have not come easily. Every step of the way, the technological breakthroughs that have enabled people to fly around the world and brave explorers to extend our horizons heavenward, were the result of hard work, perseverance, and a willingness to overcome major setbacks.

I trust that most of you are familiar with the story of Orville and Wilber Wright, the daring pioneers who made the age of flight possible.

But did you know that five years after they flew at Kitty Hawk, Orville Wright was demonstrating the potential of the airplane for the U.S. Army across the river at Fort Meyer, and this airplane crashed right after takeoff. This accident resulted in the death of his passenger, First Lt. Thomas Selfridge. Aviation did not stop because of this, but encouraged a greater commitment to fly higher, and faster and safer. Today, we are equally determined to learn from the Columbia accident and make space flight as safe as humanly possible while acknowledging the inherent risk that is ever present when you dare to step beyond.

Indeed, we know the lesson from the Columbia accident is not to turn our back on a challenge because it is hard or risky. You know this as well from your own lives and the setbacks that you all have individually overcome.

John Shedd once said about the age of ocean exploration, "A ship in safe harbor is safe, but that is not what ships are built for."

All of you, in a very real sense are like the captain of a ship traversing a mighty ocean. There may be perils ahead, and many are unknown, but to your credit, you have chosen to leave safe harbor.

Let me make another point. We did indeed move on from the early faltering efforts to demonstrate the potential of airplanes to creating an amazing air transportation system that

spans the globe and benefits our lives immeasurably.

A few years after the Wright brothers flew Robert Goddard launched his first experimental rockets. Forty-six years ago, when I was months away from graduating in this building, the first satellite was launched, and shortly thereafter the first cosmonauts and astronauts flew into Earth orbit. Today, astronaut Ed Lu and cosmonaut Yuri Malenchenko are living and working together onboard the permanently occupied International Space Station, some 250 miles above our heads, and our spacecraft are venturing throughout the solar system, as this adventure without end that we call space flight continues.

That adventure got a big boost a couple of weeks ago when the first of two Mars Exploration Rovers launched from Florida, headed to a landing on the red planet next January the third, where it will conduct an extensive search for evidence of free-flowing water in Mars' ancient past in preparation for the humans who will follow. A second Mars rover is in preparation to launch next week.

Because the Mars Exploration Rovers represent a major milestone in the annals of space exploration, we decided to hold a nationwide contest to solicit from American school children suitable names for these robotic emissaries of humanity. The winning essay was provided by a third grader from Scottsdale, Arizona named Sofi Collis.

In her essay, Sofi, who grew up in an orphanage in Siberia and was adopted by her mother Laurie here in the United States, explained why she came up with the names Spirit and Opportunity for the two rovers.

"I used to live in the orphanage," she wrote. "It was dark and cold and lonely. At night I looked up at the sparkly sky. I felt better. I dreamed I could fly there. In America I can make all my dreams come true. Thank you for the spirit and the opportunity."

The world we live in is a better place because we have wonderful souls such as Sofi Collis who can live in the most unpleasant of circumstances, look around her, and find a reason for hope. I think I am looking at a lot of Sofi Collises in this graduation class. You had the "spirit" to take on the challenge of advancing your education at this fine University at a time when you were probably being spun in a thousand different directions.

And now I trust you will have tremendous "opportunities" to advance your careers in business, government and the nonprofit sector. I am confident that each of you will seize those opportunities.

Now in the brief time I have left with you, I would specifically like to talk about the opportunities I hope many of you will have to work in scientific and technological fields, and I would hope, perhaps, even for NASA.

According to the people who study the changing American workforce, employment opportunities in science and engineering are expected to increase at a rate almost four time greater than for all other occupations throughout this decade. So if you have chosen to pursue a technical education, I really believe you have chosen wisely.

At NASA, we believe we are uniquely situated with our people, resources and bold missions to attract talented people who want to pursue exciting technical careers and help us make tangible progress toward the achievement of our mission goals.

These goals are to understand and protect our home planet, explore the universe and search for life and inspire the next generation of explorers, people like Sofi Collis and indeed like some of the young future daring explorers that are sitting here in front of me indeed may be part of that group.

So if you are interested in joining an organization whose projects run the gamut from improving the efficiency and security of our aviation system, to better understanding the dynamics of Earth's climate system -- including the rains that we've had, to exploring the solar system and universe beyond, then I urge you to take a good look at your neighbors right around the corner from your university. We are at 4th and E Street, not far at all from you. We can certainly take you to some pretty interesting neighborhoods within this solar system and beyond. Indeed, looking beyond our current activities, we are working on a strategy to ensure that NASA develops the enabling technologies that will allow human explorers, supported by robotic systems, to venture forth beyond Earth orbit to a number of exciting locations in our solar system

and beyond.

As we enter the second century of flight, the graduates of Southeastern University will experience a world in which there will always be people living and working in space and taking on challenges that are unimaginable today. And by connecting as many of you as we can to this world of exciting possibilities, I believe that NASA will help in many ways to build a better America.

Let me add that NASA is absolutely determined to ensure that our future work force fully represents the diversity of our country as we pursue our mission goals. I see much of that diversity in this audience. We are working very hard, incidentally, through cooperative programs like the one we have with Southeastern University at this point to help students from minority backgrounds pursue degrees in math, science, engineering and technology subjects.

NASA's support for education in general and minority education in particular we hope will provide the foundation for the continued diversification of NASA's workforce and the reinvigoration of our groundbreaking technical initiatives to achieve our mission goals and vision of improving life here, extending life to there, and finding life beyond.

Twenty years ago this week, Sally Ride became the first American woman astronaut in space, to be followed a few months later by Guy Bluford, our first African American astronaut in space.

You can be assured that my colleagues Sally, Guy, and my colleague the late Ron McNair, who unfortunately lost his life in the Challenger accident 17 years ago, were pioneers because they had within themselves a tremendous spirit and desire to embrace the opportunities that came their way. I hope and trust many of you will follow in their footsteps.

I congratulate the family members, the Southeastern faculty members who have guided you to this wonderful moment?and I wish you all the very best in your pursuit of a life filled with spirit and opportunity. But remember graduates. This is your day. It is absolutely ok for you to demand today that people stand aside as you move forward. It is ok for you to let your ego expand beyond your greatest expectations. It is ok to say, "Today is mine. Look out because here I come." It is ok to be extremely proud and excited about this major step that you all have just made. Whatever path you take in the next chapter of life's journey I heartily applaud you for this marvelous achievement that begins today.

Thank you again for the great honor of addressing you today. And as we say in the astronaut business, "Godspeed and happy landings (applause)."